

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (canceled).

Claim 2 (currently amended): A device comprising:
a chip formed on a die-bonding resin layer;
a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said projections projecting from a bottom surface of said device;
metallic films respectively provided to bottom and side surfaces of the resin projections; and
connecting parts electrically connecting electrode pads of said chip and the metallic films,
said die-bonding resin layer being exposed to outside at said bottom surface of said device,
wherein each of said metallic films is a single layer made of a metallic substance.

Claims 3-4 (canceled).

Claim 5 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said projections projecting from a bottom surface of said device;

metallic films respectively provided to bottom and side surfaces of the resin projections;

and

connecting parts electrically connecting electrode pads of said chip and the metallic films,

said die-bonding resin layer being exposed to outside at said bottom surface of said device

wherein:

said connecting parts respectively comprise bonding wires, and bonding balls respectively provided to the metallic films; and

said bonding wires are bonded to said electrode pads and said bonding balls.

Claim 6 (canceled).

Claim 7 (currently amended): A device comprising:

a chip;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said projections projecting from a bottom surface of said device;

metallic films respectively provided to bottom and side surfaces of the resin projections; and

connecting parts electrically connecting electrode pads of said chip and the metallic films, wherein said resin package includes a first resin portion on which the chip is provided, and a second resin portion which covers the chip,

said first resin portion being exposed to outside at said bottom surface of said device at said bottom surface of said device.

Claim 8 (original): The device as claimed in claim 7, wherein: said connecting parts respectively comprise bonding wires, and connection electrodes which are provided on said first resin portions and extend, into the resin projections, to the metallic films; and said bonding wires are bonded to the electrode pads and the connection electrodes.

Claim 9 (original): The device as claimed in claim 8, wherein said resin projections respectively have through holes through which the connection electrodes extend to the metallic films.

Claim 10 (currently amended): A device comprising:

a chip;

a resin package sealing said chip and having a first resin portion and a second resin portion, said first resin portion comprising a resin tape and said chip being provided on said first resin portion and covered by said second resin portion;

connecting parts having bonding wires and connection electrodes, said connection electrodes being provided on the first resin portion and projecting therefrom; and metallic films respectively provided to the connection electrodes of said connecting parts, said resin tape being exposed at a bottom of said semiconductor device.

Claims 11-14 (canceled).

Claim 15 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said resin projections extending downwards from the mount-side surface and laterally extending from at least one side surface of the resin package;

metallic films respectively provided to bottom and side surfaces of the resin projections;

and

connecting parts electrically connecting electrode pads of said chip and the metallic films,

said die-bonding resin layer being exposed at said mount-side surface,

wherein each of said metallic films is a single layer made of a metallic substance.

Claims 16-17 (canceled).

Claim 18 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said resin projections extending downwards from the mount-side surface and laterally extending from at least one side surface of the resin package;

metallic films respectively provided to bottom and side surfaces of the resin projections;

and

connecting parts electrically connecting electrode pads of said chip and the metallic films,

said die-bonding resin layer being exposed at said mount-side surface,

wherein:

said connecting parts respectively comprise bonding wires, and bonding balls respectively provided to the metallic films; and

said bonding wires are bonded to said electrode pads and said bonding balls.

Claim 19 (canceled).

Claim 20 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said resin projections extending downwards from the mount-side surface and laterally extending from at least one side surface of the resin package; metallic films respectively provided to bottom and side surfaces of the resin projections;

and

connecting parts electrically connecting electrode pads of said chip and the metallic films, said die-bonding resin layer being exposed at said mount-side surface,

wherein said resin projections laterally extend from a plurality of side surfaces of said resin package.

Claim 21 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said resin projections extending downwards from the mount-side surface and laterally extending from at least one side surface of the resin package; metallic films respectively provided to bottom and side surfaces of the resin projections;

and

connecting parts electrically connecting electrode pads of said chip and the metallic films, said die-bonding resin layer being exposed at said mount-side surface,

wherein said resin projections laterally extend from only one side surface of said resin package.

Claim 22 (original): 22. The device as claimed in claim 20, further comprising supporting members provided to said resin package, said supporting members supporting the device vertically mounted on a circuit board.

Claims 23-26 (canceled).

Claim 27 (withdrawn): A method of producing devices respectively having chips sealed by resin packages, said method comprising:

- (a) forming a lead frame having a base having recess portions respectively having metallic films;
- (b) mounting chips on the lead frame;
- (c) providing connecting parts which electrically connect electrode pads of said chips and the metallic films;
- (d) molding resin so that molded resin packages respectively cover the chips and metallic films supported by the lead frame; and
- (e) separating from the lead frame the molded resin packages together with the metallic films provided to resin projections which are counterparts of said recess portions.

Claim 28 (withdrawn): The method as claimed in claim 27, wherein said step (e) comprises a step of etching the lead frame and thereby dissolving the lead frame.

Claim 29 (withdrawn): The method as claimed in claim 27, wherein said step (e) comprises a step of mechanically separating the lead frame from the molded resin packages and the metallic films.

Claim 30 (withdrawn): The method as claimed in claim 27, further comprising a step of providing a tape member to the molded resin packages before said step (e) is executed.

Claim 31 (withdrawn): The method as claimed in claim 27, wherein said step (c) comprises a first step of providing bonding balls to the metallic films, and a second step of bonding wires to electrode pads of the chip and said bonding balls, said bonding balls and said bonding wires corresponding to said connecting parts.

Claim 32 (withdrawn): The method as claimed in claim 27, wherein said step (d) molds the resin so that the molded resin packages are joined together.

Claim 33 (withdrawn): The method as claimed in claim 27, wherein said step (d) molds the resin so that the molded resin packages are separated from each other.

Claim 34 (currently amended): A device comprising:

a chip;

a resin package sealing said chip, said resin package having a mount-side surface of the resin package which comprises a resin tape, said chip being formed on said resin tape;
metallic films respectively provided in the resin package so that the metallic films are flush with the mount-side surface and are exposed therefrom; and
connecting parts electrically connecting electrode pads of said chip and the metallic films, said resin tape being exposed at said mount-side surface.

Claim 35 (original): The device as claimed in claim 34, wherein: said connecting parts respectively comprise bonding wires, and bonding balls respectively provided to the metallic films; and said bonding wires are bonded to said electrode pads and said bonding balls.

Claim 36 (original): The device as claimed in claim 34, wherein each of said metallic films is a single layer made of a metallic substance.

Claim 37 (original): The device as claimed in claim 34, wherein each of said metallic films comprises a plurality of metallic layers which are stacked.

Claim 38 (original): The device as claimed in claim 34, wherein said connecting parts respectively comprise bumps provided between the electrode pads of the chip and the metallic films.

Claim 39 (withdrawn): A method of producing devices respectively having chips sealed by resin packages, said method comprising:

- (a) forming a lead frame having a base on which metallic films are formed;
- (b) mounting chips on the lead frame;
- (c) providing connecting parts which electrically connect electrode pads of said chips and the metallic films;
- (d) molding resin so that molded resin packages respectively cover the chips and metallic films supported by the lead frame; and
- (e) separating from the lead frame the molded resin packages together with the metallic films so that the chips are exposed from mount-side surfaces of the molded resin packages.

Claim 40 (withdrawn): The method as claimed in claim 39, wherein said step (e) comprises a step of etching the lead frame and thereby dissolving the lead frame.

Claim 41 (withdrawn): The method as claimed in claim 39, wherein said step (e) comprises a step of mechanically separating the lead frame from the molded resin packages and the metallic films.

Claim 42 (original): The device as claimed in claim 1, wherein: said metallic films respectively have lead portions, which are sealed by the resin package and extend toward the chip; and said connecting parts include bonding wires which are bonded to said lead portions.

Claim 43 (original): The device as claimed in claim 42, further comprising a heat radiating member sealed by the resin package, the chip being provided on said heat radiating member.

Claim 44 (currently amended): A device comprising:
a chip formed on a die-bonding resin layer;
a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said projections projecting from a bottom surface of said device;
metallic films respectively provided to bottom and side surfaces of the resin projections;
and
connecting parts electrically connecting electrode pads of said chip and the metallic films, said die-bonding resin layer being exposed at said mount-side surface,
wherein:
said connecting members respectively comprise bumps provided between the electrode pads of the chip and the metallic films.

Claim 45 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said projections projecting from a bottom surface of said device;

metallic films respectively provided to bottom and side surfaces of the resin projections;

and

connecting parts electrically connecting electrode pads of said chip and the metallic films,
said die-bonding resin layer being exposed at said bottom surface,

wherein:

said metallic films respectively have lead portions, which are sealed by the resin package and extend toward the chip; and

said connecting parts include bumps provided between the electrode pads of the chip and the lead portions of the metallic films.

Claim 46 (currently amended): A device comprising:

a chip formed on a die-bonding resin layer;

a resin package sealing said chip, said resin package having resin projections located on a mount-side surface of the resin package, said projections projecting from a bottom surface of said device;

metallic films respectively provided to bottom and side surfaces of the resin projections; and

connecting parts electrically connecting electrode pads of said chip and the metallic films,
said die-bonding resin layer being exposed at said bottom surface.

wherein:

said metallic films respectively have lead portions, which are sealed by the resin package and extend toward the chip, said lead portions having recess portions; and

said connecting parts include bumps, which are positioned in said recess portions and are provided between the electrodes pads of the chip and the lead portions of the metallic films.

Claim 47 (original): The device as claimed in claim 44, wherein a back surface of the chip opposite to a surface on which the electrode pads are provided is exposed from a surface of the resin package opposite to the mount-side surface thereof.

Claim 48 (original): The device as claimed in claim 47, further comprising a heat radiating member attached to the back surface of the chip.

Claim 49 (original): The device as claimed in claim 44, further comprising an insulating member provided to a surface of the chip on which the electrode pads are provided.

Claim 50 (original): The device as claimed in claim 44, wherein said connecting parts comprise an electrically conductive resin containing conductive particles joined together under a given pressure.